AMENDMENTS TO THE SPECIFICATION:

Please amend the specification as follows:

Amend the paragraph beginning on page 1, line 17 to read as follows:

As shown in Fig. 7A, a friction multi-plate clutch 65 of the actuator 50 for friction engagement devices is provided between a clutch hub 66 connected to a front wheel side hollow shaft 62 and a clutch drum 67 connected to a rear wheel side hollow shaft 61, and the torque (rotational torque) of a motor 71, which is a torque generating mechanism, is designed to be used as a pressing force for the clutch 65. Namely, a drive gear 72 on which two kinds of gears 72a, 72b are formed is mounted on a drive shaft 71a of the motor 71, and driven gears 73, 74 are disposed so as to mesh with these two gears 72a, 72b, respectively. Hollow shafts 75, 76 having respectively cam surfaces 69, 70 provided on flange portions thereof are spline connected to the gears 73, 74 via a roller 68, and furthermore, a piston 78 is provided to connect to the shaft via a bearing ~~78~~ 77. In addition, the rear wheel side hollow shaft 61 is supported on a transfer case 81 via a bearing 80, and a transfer drive gear 63 and a cover 82 are fixed to the clutch drum 67 with a bolt, the cover 82 being supported between the hollow shafts 75, 76 and the transfer case 81 by bearings 83, 84. Note here that a shaft on a center line is an axle 60.

Amend the paragraph beginning on page 5, line 21 to read as follows:

According to a second aspect of the invention, there is provided a transmission actuator having a torque generating mechanism having, in turn, a rotor provided on an outer circumferential surface of a drive shaft and a stator provided on an inner circumferential surface of a transmission case, a speed reduction mechanism formed integrally on the drive shaft and having a first internally toothed gear and a second internally toothed gear, and a first externally toothed gear and a second externally toothed gear which are rotatably supported on an outer circumferential surface of an input shaft or an output shaft so as to mesh with the first internally toothed gear and the second internally toothed gear, respectively, for transmission of a torque, whereby a torque from the torque generating mechanism is multiplied through a differential motion produced by a difference in ~~gar~~ gear ratio between a set of the first internally toothed gear and the first externally toothed gear and a set of the second internally toothed gear and the second externally toothed gear, a motion direction changing mechanism for converting a torque multiplied by a cam mechanism provided between confronting faces of the first and second externally toothed gears into a thrust, and a friction engagement mechanism provided on the input shaft and the output shaft so as to be brought into engagement by virtue of a thrust generated by the motion direction changing mechanism to thereby transmit a power from the input shaft to the output shaft, wherein the drive shaft is made hollow so that the input shaft or the output shaft is disposed in a hollow portion of the drive shaft.

Amend the paragraph beginning on page 7, line 14 to read as follows:

According to a third aspect of the invention, there is provided a transmission actuator having a torque generating mechanism having, in turn, a rotor provided on an outer circumferential surface of a drive shaft and a stator provided on an inner circumferential surface of a transmission case, a speed reduction mechanism disposed on either an input shaft or an output shaft in which an internally toothed gear or an externally toothed gear provided on the drive shaft and having two gears for transmitting a torque to a first externally toothed gear to a second externally toothed gear disposed adjacent to the first externally toothed gear is provided on the first externally toothed gear and the second externally toothed gear, whereby a torque from the torque generating mechanism is multiplied through a differential motion produced by a difference in ~~gar~~ gear ratio between a set of one of the two gears and the first externally toothed gear and a set of the other gear and the second externally toothed gears, a motion direction changing mechanism for converting a torque multiplied by a cam mechanism provided between confronting faces of the first and second externally toothed gears into a thrust, and a friction engagement mechanism provided on the input shaft and the output shaft so as to be brought into engagement by virtue of a thrust generated by the motion direction changing mechanism to thereby transmit a power from the input shaft to the output shaft, wherein the drive shaft is made hollow so that the input shaft or the output shaft is disposed in a hollow portion of the drive shaft.

Amend the paragraph beginning on page 11, line 4 to read as follows:

According to a fifth aspect of the invention, there is provided a transmission actuator as set forth in the fourth aspect of the invention, wherein the speed reduction mechanism is that a carrier carrying planet gear assemblies (planet gearsets) while holding them thereon is connected to the drive shaft, that two planet gears for transmitting a torque from the torque generating mechanism are disposed at a plurality of locations, that a ring gear is formed in an inner circumferential surface of a transmission case, and that two sun gears are disposed closely to each other between the planet gear assemblies and the input shaft, so that the planet gear assemblies and the sun gears are brought into mesh engagement with each other, allowing the planet gear assemblies not only to rotate on their own axes but also to rotate around the ~~sung~~ sun gears, whereby a torque from the torque generating mechanism is multiplied through a differential motion produced by a difference in gear ratio between a set of one of the two planet gears and one of the two sun gears and a set of the other planet gear and the other sun gear, while the planet gears and the sun gears mesh with each other.

Amend the paragraph beginning on page 14, line 23 to read as follows:

The speed reduction mechanism is a mechanism for multiplying a torque generated by the torque generating mechanism by generating a differential motion by a difference in gear ratio between two sets of gears to implement a reduction in speed by the differential motion so generated. The right end of the drive shaft 10a which is diametrically expanded is rotatably supported by the bearing 11b, and two gears which constitute a first internally toothed gear 13 and a second internally toothed gear 14 are formed in an inner circumferential surface of the right end of the drive shaft 10a with a slight amount of eccentricity "t" being provided relative to an input shaft 20a and an output shaft 30a. In addition, the two gears or the first internally toothed gear 13 and the second internally toothed gear 14 are formed integrally. The input shaft 20a is caused to pass through the hollow drive shaft 10a, and a first externally toothed gear 23 and a second externally toothed gear 24 which are rotatably supported on an outer circumferential surface of the input shaft 20a by bearings 22a, 22b, respectively, mesh with the first internally toothed ~~bear~~ gear 13 and the second internally toothed gear 14, respectively, not only to transmit torque but also to implement a speed reduction through a difference in gear ratio between the two sets of the internally and externally toothed gears, that is, a set of the first internally toothed gear 13 and the first externally toothed gear 23 and a set of the second internally toothed gear 14 and the second externally toothed gear 24.

Amend the paragraph beginning on page 15, line 24 to read as follows:

Assuming, for example, that the number of teeth of the first externally toothed gear 23 is 70, the number of teeth of the second externally toothed ~~bear~~ gear 24 is 78, the number of teeth of the first internally toothed gear 13 is 73 and the number of teeth of the second internally toothed gear 14 is 81, the first externally toothed gear 23 rotates relative to the drive shaft 10a with a gear ratio of 1.0429, and the second externally toothed gear 24 rotates relative to the drive shaft 10a with a gear ratio of 1.0385. In this case, a differential motion (a difference in phase in a rotational direction) is generated between the first externally toothed gear 23 and the second externally toothed gear 24 by a difference of 0.0044 in gear ration between the first externally toothed gear 23 and the second externally toothed gear 24 which results when the drive shaft 10a completes one revolution, whereby the rotation of the motor M is largely slowed down. The total gear ratio in this case, however, is 227.5.

Amend the paragraph beginning on page 26, line 15 to read as follows:

the speed reduction mechanism formed integrally on the other end of the drive shaft for multiplying a torque from the torque generating mechanism and having the first internally toothed gear 13 and the second internally toothed gear 14, and the first externally toothed gear 23 and the second externally toothed gear 24 which are rotatably supported on the outer circumferential surface of the input shaft 20a, 20b which is caused to pass through the interior of the drive shaft so as to mesh with the first internally toothed gear 13 and the second internally toothed gear 14, respectively, for transmission of a torque, whereby a torque from the torque generating mechanism is multiplied through a differential motion produced by a difference in ~~gar~~ gear ratio between the set of the first internally toothed gear 13 and the first externally toothed gear 23 and the set of the second internally toothed gear 14 and the second externally toothed gear 24,

Amend the paragraph beginning on page 33, line 12 to read as follows:

In the speed reduction mechanism, the right end of the drive shaft 10d is formed into the flange-like configuration, and a bearing 11a is disposed between an inner circumferential surface of the right end of the drive shaft 10d on an outer circumferential surface of which a first externally toothed gear 23 is formed and an outer circumferential surface of the input shaft 20d provided in such a manner as to pass through the interior of the drive shaft 10d so as to rotatably support the outer circumferential surface of the input shaft 20d on the inner circumferential surface of the right end of the drive shaft 10d. Similarly, a second externally toothed gear 24 providing a slightly different gear ratio is rotatably supported on the outer circumferential surface of the input shaft 20d by a bearing 22b at a position close to the first externally toothed gear 23. A pinion shaft 40 is fixed in parallel with the drive shaft 10d in a shoulder portion 5 of the case 7 which is diametrically expanded, and an end of the pinion shaft 40 is supported by a support 7c. A pinion rotatably supported on bearings 41a, 41b has two pinion gears, that is, a first pinion gear 43 and a second pinion gear 44, which are integrally formed while having the numbers of teeth which are slightly different, whereby a torque is multiplied by a differential motion produced by a slight difference in gear ratio between a gearset of the first externally gear 23 and the first pinion gear 43 and a ~~gearsset~~ gearset of the second externally toothed gear 24 and the second pinion gear 44.

Amend the paragraph beginning on page 38, line 12 to read as follows:

As shown in Fig. 5, a transmission actuator 5 includes a torque generating mechanism, a speed reduction gear, a motion direction changing mechanism and a friction engagement mechanism. The torque generating mechanism is a motor M and includes a rotor 8a fixedly fitted on an outer circumferential surface of a hollow drive shaft 10e and a stator 8b fixedly fitted in an inner circumferential surface 7a of a case 7. A bearing 11a is disposed between an outer circumferential surface of the hollow drive shaft ~~10d~~ 10e and the inner circumferential surface of the case 7 so as to rotatably support the drive shaft 10e on the case 7 via a retainer 5c, and an inner circumferential surface of the drive shaft 10e is rotatably supported by two bushes 12a, 12b. In addition, a carrier 16 for holding a plurality of ~~inions~~ pinions 42 extends in a flange-like fashion at a left end of the drive shaft 10e, and a carrier 17 for supporting a shaft 48 at both ends thereof is integrally formed. The shaft 48, which is supported at the both ends thereof by holes formed in the carriers 16, 17, rotatably supports a planet gear 45 by bearings 41a, 41b. A first planet gear 46 and a second planet gear 47 are integrally formed on the planet gear 45, the first planet gear 46 and the second planet gear 47 having the numbers of teeth which are slightly different.

Amend the paragraph beginning on page 40, line 12 to read as follows:

As shown in Fig. 5, when an activating signal enters the motor M of the torque generating mechanism, the motor M rotates the rotor 8a fixedly fitted on the hollow drive shaft 10e, the drive shaft 10e which is made integral with the rotor 8a and the ~~carries~~ carriers 16, 17 which are provided integrally at the left end of the drive shaft 10e. Then, the first planet gear 46 of the planet gear 45 disposed in the carriers 16, 17 rotates on its axis while walking around the first externally toothed gear 23. As a result, the second planet gear 47 which is formed integrally on the planet gear 45 also rotate on its axis while walking around to rotate the second externally toothed gear 24. That is, the first planet gear 46 and the second planet gear 47 rotate on their axes while walking around, and the second planet gear 47 transmits a rotational force (a torque) to the second externally toothed gear 24. As a result, since the number of teeth of the first externally toothed gear 23 is different from that of the second externally toothed gear 24, the number of teeth of the first planet gear 46 is different from that of the second planet gear 47, and the gear ratios of the gearset of the first externally toothed gear 23 and the first planet gear 46 and the gearset of the second externally toothed gear 24 and the second planet gear 47 are different, a differential motion is generated, whereby a double speed reduction can be implemented to multiply the torque.

Amend the paragraph beginning on page 42, line 3 to read as follows:

the speed reduction mechanism for multiplying a torque generated by the torque generating mechanism in which the ~~carries~~ carriers 16, 17 ~~which~~ carry the planet gear (planet gear assembly) 45 while holding them thereon are integrally formed on the other end of the drive shaft 10e, a plurality of planet gears 45 each having the first planet gear 46 and the second planet gear 47 are provided for transmitting a torque from the torque generating mechanism, and the first externally toothed gear 23 and the second externally toothed gear 24 which constitute sun gears are provided between the planet gear 46 and the input shaft 20e in such a manner as to be situated close to each other, so that the associated gears mesh with each other to rotate on their axes while walking around, whereby the torque is multiplied by a differential motion produced by a difference in gear ratio between the gearset of the first planet gear 46 and the first externally toothed gear 23 and the gearset of the second planet gear 47 and the second externally toothed gear 24,

Amend the paragraph beginning on page 43, line 24 to read as follows:

As shown in Fig. 6, a transmission actuator 6 includes, similarly, a torque generating mechanism, a speed reduction gear, a motion direction changing mechanism and a friction engagement mechanism. The torque generating mechanism is a motor M and includes a rotor 8a fixedly fitted on an outer circumferential surface of a hollow drive shaft 10f and a stator 8b fixedly fitted in an inner circumferential surface 7a of a case 7. An inner circumferential surface of a right end of the hollow drive shaft 10f and an outer circumferential surface of a hollow axial end of a carrier 16 which carries a plurality of planet gears 45 are fixedly screwed together, and furthermore, a carrier 17 for supporting a shaft 48 at ends thereof are similarly wrapped together so as to be formed integrally. In addition, the planet gear 45 is rotatably supported by bearings 41a, 41b which fit on the shaft 48 which is supported at its ends by holes formed in the ~~carries~~ carriers 16, 17. A first planet gear 46 and a second planet gear 47 are integrally formed on the planet gear 45, the first planet gear 46 and the second planet gear 47 having the numbers of teeth which are slightly different.

Amend the paragraph beginning on page 47, line 17 to read as follows:

The sixth embodiment will be summarized as below. That is, the sixth embodiment is different from the fifth embodiment in the arrangement and configuration of the speed reduction mechanism. In Fig. 6, the speed reduction mechanism of the transmission actuator 6 is characterized in that the carriers 16, 17 carrying the planet gear 45 while holding them thereon are connected to the drive shaft 10f, that the planet gear 45 having the first planet gear 46 and the second planet gear 47 is disposed at a plurality of locations, that a ring gear 49 is formed in an inner circumferential surface of a transmission case 7 so as to mesh with the first planet gear 46, and that the first externally toothed gear 23 and the second externally toothed gear 24 which constitute sun gears are disposed closely to each other between the planet gears 45 and the input shaft 20f, so that the planet gears 45 and the sun gears are brought into mesh engagement with each other, allowing the planet gears 45 not only to revolve on their own axes but also to rotate around the ~~sung~~ sun gears, whereby a torque is multiplied through a differential motion produced by a difference in gear ratio between the gearset of the first planet gear 46 and the first externally toothed gear 23 and the gearset of the second planet gear 47 and the second externally toothed gear 24.